

NEW GYPSOPHILIC SPECIES OF PSEUDOCLAPPIA AND SARTWELLIA (ASTERACEAE) FROM WEST TEXAS AND EASTERN CHIHUAHUA¹

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The species described here provide additional examples of the remarkable effect of gypsum-edaphic endemism on plant speciation and they add to the list of new taxa discovered during the course of our study of gypsophilic vegetation of the Chihuahuan Desert region (Powell, 1972, etc.; Turner, 1972; etc.)

PSEUDOCLAPPIA watsonii Powell & Turner, sp. nov. Fig. 1.

Frutices (25-) 30-75 cm alti intricate ramosi ramis filo metalico similibus validis in parte superiore pedunculiformibus. Folia alterna carnosia subteretia 1.2-1.7 cm longa glabra superiora reducta bracteiformia. Capitula radiata solitaria pedunculis erectis ca. 4 cm longis; involucri late obconica 1.1-1.4 cm alta; bractee inaequales 3-4-seriatae lineari-lanceolatae glabrae margine scariosae apice attenuatae (vel acutae); flores radiati 6-7(-11), ligulis flavis 1.0-1.3 cm longis, oblongo-ellipticis vel linearibus apice 1-2-incisuratis vel irregulariter fassis; disci flores ca. 25 corollis flavis 8.0-8.5 mm longis tubis ca. 2 mm longis faucibus cylindricis basem versus leviter angustatis 5.5-6.0 mm longis, lobis ca. 0.5 mm longis erectis vel leviter incurvatis; rami styli ca. 2 mm longi fere glabri lineares planati apicem versus leviter angustati apice truncate; antherae 3.5-4.0 mm longae. Achaenia matura nigra ca. 4 mm longa oblonga basem versus leviter angustata utrinque dense pubescentia pilis adpressis ca. 0.5 mm longis in transectione rhombea vel fere quadrata; setae pappi plures inaequales 8-10 mm longae subteretes vel complanatae stramineae antrorsus barbellatae. Chromosomatum numerus, $n =$ ca. 19.

TYPE: TEXAS. Hudspeth Co., Clay hills and arroyos, ca. 1 mi E. of Tommy's Town, 24 Aug 1974, A. M. Powell 2792 (Holotype, SRSC; Isotypes, MO, TEX, US).

Additional specimen examined: TEXAS. Presidio Co., 53.8 road mi N of Candelaria, on slopes of a small hill along the primitive road to Chispa; Sierra Vieja foothills; with *Acacia*, *Agave*, *Yucca*, *Larrea*, *Condalia*, *Erion-euron* and *Xylorhiza*; rocky clay soil; only three plants observed; 21 May 1971, T. Watson 630.

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Figure 1. *Pseudoclappia watsonii* (Powell 2792); habit and achene.

Pseudoclappia watsonii is only the second species of the genus to be described, the other one being *P. arenaria*, a halophytic-gypsophile of southeastern New Mexico, north-central Mexico, and adjacent Texas. The new species is similar to *P. arenaria* except that most floral features and the heads are larger in *P. watsonii*. The two species are readily distinguished, however, by habit and habitat differences. *Pseudoclappia watsonii* is a strong, intricately branched, low shrub which apparently is restricted to dry, gypseous-clay soils; *P. arenaria*, while also a low shrub, evidently does not attain the size and branching habit of the other species and it occurs in more mesic saline-gypsum habitats such as along playa lakes, etc.

The new taxon was first collected by Dr. Tom Watson, former student of both authors, after whom we are pleased to name the species.

SARTWELLIA gypsophila Powell & Turner, sp. nov.

Suffrutices perennes glabri 35-80 cm alti erecti vel caulibus effusis. Folia opposita anguste linearia 7-12 cm longa 1.0-2.5 mm lata sessilia inferiora connato-vaginata. Capitulescentiae corymbiformes multiflorae apice planae. Capitula radiata 12-15 flora; involucria turbinata, bracteae 5 ellipticae acutae apice minute ciliato-laceratae; flores radiati saepe 5, ligulis flavis ovalibus vel oblongis vel ellipticis 1.5-1.8 mm longis 1.0-1.5 mm latis; flores disci corollis 2.0-2.5 mm longis tubis fere indistinctis, faucibus superius abrupte expansis lobis ca. 1 mm longis acutis maturis reflexis, styli rami ca. 0.5 mm longi vel breviores apice truncati penicillati. Achenia nigra 1.0-1.5 mm longa minute pubescentia; pappus coroniformis squamellis pluribus pro parte coalescentibus ca. 0.3 mm longis. Chromosomatum numerus, $n = 18$.

TYPE: MEXICO: Chihuahua. Jurassic gypsum near the lake road and ca. 5 mi NW of Lake Granero, ca. 16 mi from Morrión, 14 July 1973, A. M. Powell 2536 (Holotype, SRSC; Isotype, TEX).

Known only from the type locality.

Sartwellia gypsophila was discovered at a locality where several other novel gypsophilic taxa have been found in the past few years, including members of *Argemone*, *Selinocarpus*, *Nerisyrenia*, and *Gaillardia*. The discovery of a new *Sartwellia* is surprising since the genus, containing only three species, was recently treated by the junior author (Turner, 1971); however, the gypsum area at the type locality was unexplored by botanists at that time which leads us to believe that yet other gypsophiles within this genus might remain undescribed from the area concerned.

Judging from pappus structure, leaf morphology, head size, and floral characters, *Sartwellia gypsophila* seems most closely related to the more northerly *S. flaveriae* of southern New Mexico and adjacent Texas although it also shares characters with the more southerly *S. puberula*. *Sartwellia gypsophila* is readily distinguished by its tall, suffruticose habit and selected floral characters. Other species of *Sartwellia* are annuals or short-lived perennial herbs, but all are restricted to gypsum substrates (Turner, 1971).

REFERENCES

- POWELL, A. M. 1972. A new species of *Argemone* (Papaveraceae) from Mexico. Southwest. Nat. 17: 106.
- TURNER, B. L. 1971. Taxonomy of *Sartwellia* (Compositae—Helenieae). Sida 4: 265-273.
- . 1972. Two new species of *Isocoma* (Compositae—Astereae) from north central Mexico. Sida 5: 23-25.